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John G. Macke JR.

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EXAMINER

EWALD, MARIA VERONICA

ART UNIT

PAPER NUMBER

1791

NOTIFICATION DATE

DELIVERY MODE

11/16/2009

ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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Response to Arguments

Applicant's arguments filed October 29, 2009 have been fully considered but they are not persuasive. Applicant's primary argument is that the instant invention differs from that of the apparatus of Feygin because the instant invention is directed to a system which prepares separate tool sections via laser sintering, which are subsequently assembled together to form a larger tool. Thus, the instant invention allows the fabrication of tools which were previously too large to be manufactured in a single operation using a conventional SLS system. Applicant further argues that the apparatus of Feygin is directed to the building of an object layer-by-layer; however, is not applicable to the fabrication of a tool too large to be grown in a single piece.

The Examiner disagrees that the apparatus of Feygin is not pertinent or does not render obvious the claims as they are currently written and disagrees with Applicant's assertion that the Examiner's rejection is based on hindsight reasoning.

Though Applicant may argue that the *tool being fabricated is manufactured in tool sections, the tool design or its assembly subsequent to sintering does not serve to structurally distinguish Applicant's apparatus from that of Feygin. Applicant repeatedly argues that the tool sections of the instant invention are unique in that the sections are comprised of components allowing the assembly of the larger tool after each section is manufactured via SLS; however, Applicant fails to point out how the instant invention differs structurally from the prior art SLS system of Feygin.* Applicant is merely utilizing a conventional SLS system in a process which may not have been previously applied; however, the apparatus components are all known. Simply put, Applicant's apparatus is

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comprised of a build chamber, a powder material, a mechanism by which the powder material is deposited on the build chamber platform, a radiation source to fuse the deposited layer into a cross-section and a CAD system/computer which feeds the tool design to the SLS system. These are all known components of conventional SLS systems. Regardless of what type of tool is being designed or whether the finished tool is joined with another finished tool, *the apparatus is not further limited by the tool design or what happens to the tool after it is fabricated*. Furthermore, though Applicant may argue that independent claim 41 includes specific means for achieving the fitting of the tool sections together, such means which are defined features of the tool itself, not the apparatus, do not further limit or distinguish Applicant's apparatus from that of the prior art apparatus.

With respect to the claims 7 – 8, Applicant argues that the combination of the references of Feygin and Masters is not proper and therefore should be withdrawn. The Examiner again disagrees. Applicant argues that Masters teaches the use of ballistic particles or Litetak for the strands, but fails to teach laser sintering and further argues that the features as taught by Masters is not applicable to Feygin, et al. The Examiner disagrees. Masters teaches the use of support materials which operate as a buffer or heat sink (the support material absorbs any heat and thereby cools the component) to limit warpage of the fabricated object during sintering or manufacture. Thus, the Examiner maintains the rejections of dependent claims 7 – 8 and contends that the combination is proper because both references are within the same art.

The Examiner has endeavored to address each of Applicant's arguments and again stresses that though Applicant may argue that the instant invention is used to fabricate tool sections which are subsequently joined together allowing an advantage over the prior art in that large tools, previously too large to be grown in a conventional SLS system, may be grown in small sections and then assembled, such an argument is not persuasive. Furthermore, as noted by the Examiner, the tool design, its components and assembly thereof after laser sintering do not serve to distinguish the apparatus of Applicant from that of the prior art.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to MARIA VERONICA D. EWALD whose telephone number is (571)272-8519. The examiner can normally be reached on M-F, 8 - 4:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Dr. Yogendra Gupta can be reached on 571-272-1316. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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MVE

/Maria Veronica D Ewald/
Primary Examiner, Art Unit 1791